WHAT IS CLAIMED IS:

1. A film bulk acoustic resonator comprising:

a piezoelectric element including a ferroelectric film;

a first electrode which is disposed on a first surface of said piezoelectric element;

a second electrode which is disposed on said first surface, which is electrically insulated from said first electrode, and which is disposed to extend along at least a part of an edge of said first electrode;

a third electrode which is disposed on a second surface opposite to said first surface of said piezoelectric element, and which is opposed to said first and second electrodes across said piezoelectric element;

a first wiring through which an electric power is supplied to said first electrode; and

a second wiring through which an electric power is supplied to said second electrode,

wherein a first region of said ferroelectric film which is interposed between said first and third electrodes has a first polarization state, and a second region of said ferroelectric film which is interposed between said second and third electrodes has a second polarization state that is different from the first polarization state.

2. A film bulk acoustic resonator according to claim 1, wherein a magnitude of spontaneous polarization in the first

polarization state is larger than a magnitude of spontaneous polarization in the second polarization state.

3. A film bulk acoustic resonator according to claim 1, wherein a direction of spontaneous polarization in the first polarization state is different from a direction of spontaneous polarization in the second polarization state.

4. A film bulk acoustic resonator according to claim 3, wherein the direction of spontaneous polarization in the first polarization state is opposite to the direction of spontaneous polarization in the second polarization state.

5. A film bulk acoustic resonator according to claim 1, wherein a non-piezoelectric insulating film is formed between said first and second wirings, and said piezoelectric element.

6. A film bulk acoustic resonator according to claim 4, wherein said non-piezoelectric insulating film mainly contains at least silicon oxide, silicon nitride, a polyimide resin, or a polymer.

7. A film bulk acoustic resonator according to claim 1, wherein said ferroelectric film includes a PZT thin film which is preferentially oriented in (001) orientation.

8. A film bulk acoustic resonator according to claim 6, wherein said piezoelectric element further includes a temperature compensating layer, and said temperature compensating layer mainly contains strontium titanate or a solid solution of strontium titanate and barium titanate.

9. A film bulk acoustic resonator according to claim 1, wherein said first region has a function of a resonator, and said second region has a function of a spurious suppressing element.

10. A film bulk acoustic resonator comprising:

a multi-layered member, and

a substrate on which said multi-layered member is to be mounted,

said multi-layered member comprising:

a piezoelectric element including a ferroelectric film;

a first electrode which is disposed on a first surface of said piezoelectric element;

a second electrode which is disposed on said first surface, which is electrically insulated from said first electrode, and which is disposed to extend along at least a part of an edge of said first electrode;

a third electrode which is disposed on a second surface opposite to said first surface of said piezoelectric element, and which is opposed to said first and second electrodes

across said piezoelectric element;

a first wiring through which an electric power is supplied to said first electrode; and

a second wiring through which an electric power is supplied to said second electrode,

wherein a first region of said ferroelectric film which is interposed between said first and third electrodes has a first polarization state, and a second region of said ferroelectric film which is interposed between said second and third electrodes has a second polarization state.

11. A film bulk acoustic resonator according to claim 10, wherein said multi-layered member and said substrate are bonded together by an adhesive material.

12. A film bulk acoustic resonator according to claim 10, wherein an air gap is formed between at least a part of said first and second regions, and said substrate.

13. A film bulk acoustic resonator according to claim 10, wherein a reflective layer is formed between at least a part of said first and second regions, and said substrate, said reflective layer having a thickness which is one fourth of a resonant wavelength in said first region.

14. A film bulk acoustic resonator comprising:

a ferroelectric film;

a first electrode which is disposed on a first surface of said ferroelectric film;

a second electrode which is disposed on said first surface, which is electrically insulated from said first electrode, and which is disposed to extend along at least a part of an edge of said first electrode;

a third electrode which is disposed on a second surface opposite to said first surface of said ferroelectric film, and which is opposed to said first electrode across said ferroelectric film;

a fourth electrode which is disposed on said second surface opposite to said first surface of said ferroelectric film, and which is opposed to said second electrode across said ferroelectric film;

a first wiring which is connected to one of said first and third electrodes to generate a potential difference between said first and third electrodes; and

a second wiring which is connected to one of said second and fourth electrodes to generate a potential difference between said second and fourth electrodes,

wherein a first region of said ferroelectric film which is interposed between said first and third electrodes has a first polarization state, and a second region of said ferroelectric film which is interposed between said second and fourth electrodes has a second polarization state.

15. A film bulk acoustic resonator in which a multi-layered member is placed on a substrate, said multi-layered member comprising:

a common electrode;

a piezoelectric layer formed on said common electrode;

a first electrode which is formed on said piezoelectric layer, and which is used for a resonator;

a second electrode which surrounds an edge of said first electrode with forming a gap therebetween, and which is used for a spurious suppressing element;

a first wiring through which an electric power is supplied to said first electrode; and

a second wiring through which an electric power is supplied to said second electrode,

wherein said piezoelectric layer includes a ferroelectric film, and a polarization state of said ferroelectric film corresponding to said resonator is different from a polarization state of said ferroelectric film corresponding to said spurious suppressing element.

16. A film bulk acoustic resonator circuit comprising:

a film bulk acoustic resonator according to any one of claims 1 to 15;

a communication signal generating section which outputs a signal through said first wiring; and

a spurious suppression signal generating section which outputs a signal through said second wiring.

17. A transceiver wherein a film bulk acoustic resonator or a film bulk acoustic resonator circuit according to any one of claims 1 to 16 is used.